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AUTHOR Crepeau, James J.
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ABSTRACT

Numerous studies involving suicide attempters and those who commit suicide suggest that the suicidal individual perceives limited control over the environment, the occurrence of stressful life events and a diminished probability of future success. Results of the present study indicate a relationship between the frequency of suicidal thoughts among college students and depression, externally on a locus of control scale and a reduced generalized expectancy for future success. The relationship between frequency of suicidal thoughts and stressful life events is less apparent. Similar findings are evident for suicide attempters. Implications of the findings and suggested directions for future research are also discussed. (Author)

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The Relationship Between Stressful Life Events, Locus of Control and Suicidal Ideation

James J. Crepeau

University of Massachusetts, Amherst

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Numerous studies have been conducted investigating a multitude of sociological and/or psychological factors and their effects on attempted and/or completed suicide. Among those factors generally found to be related to attempted and completed suicide is the experiencing of certain negative life events prior to the act, including the loss of significant others.

Palmer (1941) found that 40% of the suicide attempters had lost an opposite sex parent before the age of 14 years and 20% lost a same sex parent before the age of 14. In a later study, Birtchnell (1970) reports similar evidence of a relationship between parental death and suicide attempts. The attempted suicide group had suffered significantly more early parental death occurring from age 10 to 19. Parental absence was most marked among the severely depressed patients who had attempted suicide.

Jameison and Wall (1933) and Wall (1944) in interviews with hospital patients, determined precipitating factors for suicide to include business and financial worries, physical depletion, alcoholic spouse, physical accidents, death of a child, impending surgery, contemplated marriage, failing

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potency, childbirth and love affairs.

Asnes and Paffenbarger (1966) reviewed the medical and social histories of male students at the University of Pennsylvania and Harvard University. A total of 225 suicides were identified among approximately 40,000 former students and matched with 450 randomly selected control subjects. The following results were obtained: seventeen per cent of the suicides and ten per cent of the controls had reported their parents to be separated or divorced; a larger percentage of the suicide group than the control group reported their father or mother to be in poor health; singificantly more suicidal subjects (14 per cent) than control subjects (7 per cent) reported that their father was dead at the time histories were taken; the combination of separation of parents, illness or death of father was recorded for 34 per cent of the suicides but only 22 per cent of the control group.

Motto (1974) claims that some of the evidence supporting the life events data has negligible statistical significance and is often contrary to clinical expectation. For example, he cites instances of steadily employed subjects with no loss of a significant person who have nearly four times the rate of suicide (6 subjects out of 81) than those irregularly employed who do suffer from such a loss (1 out of 50). Also, widows who feel they are a burden to others suicide less (9 out of 14) than those who do not experience this feeling (3 out of 16).

Motto suggests that this misleading evidence may result from an erroneous method of analysis in which the suicides that occurred were not directly related to the variables cross tabulated. One important aspect which has been seemingly overlooked in the life events literature is some assessment of how the person who experiences the life events perceives the events. The person who has experienced several stressful life events and feels that he/she has some degree of control over the events may react differently than the person who experiences similar events and sees him/herself as having no control whatsoever over their occurrence. If a sense of control over events or reinforcements is a salient factor in depression or suicide potential, then investigations of locus of control expectancies in relation to stress and life threating behavior are in order.

Williams and Nickels (1969), in a study of 235 college students found externality as measured by the Rotter scale (1966) related to suicide potentiality as measured by the Minnesota Multiphasic Personality Inventory (MMPI). Melges and Weisz (1971) obtained results suggesting that suicidal ideation emerges when a person views his/her own future as bleak and blocked. These findings, obtained from suicide attempters, suggest that suicidal ideation is associated with a negative outlook on the personal future, feelings of lessened personal control over outcomes (external) and a restricted view of one's own future, that is, a general increase in feelings of hopelessness. Minkoff, Bergman, Beck and Beck (1973) further

studied the relationship between suicide attempt and hopelessness (pessimism). These investigators found a positive correlation between suicidal intent and hopelessness which was stronger than that found between intent and depression.

The purpose of the present study is to determine if the suicidal ideator in contrast to the non-ideator has experienced more stressful life events prior to the serious suicidal thoughts, holds a belief in external as opposed to internal locus of control and shows a diminished generalized expectancy for success. It is assumed that the suicidal ideator more than the non-ideator has experienced more stressful life events, perceives him/herself as having little or no control over life events and sees the future as offering little chance for success or change.

Method

Subjects

Subjects in this study were 178 undergraduate college students (109 females and 69 males) attending the University of Massachusetts (Amherst), who voluntarily participated in this experiment for experimental credit. The age range was from 18 to 44 years with an average age of 21.17. Subjects were predominantly Caucasian.

All subjects completed each questionnaire in the study, however four subjects (2 female and 2 male) were not included in the analysis due to improper completion of questionnaires which made accurate analysis of their results impossible.

Scales and Questionnaires

Each subject was administered a package of the following scales and questionnaires: the Collins Internal-External Scale, the Hale-Fibel Generalized Expectancy for Success Scale, the Zung Self-Rating Depression Scale, the "today" version of the Multiple Affect Adjective Check List (MAACL), a Self-Report Suicidal Ideation Questionnaire, a Life Events Scale, a Life Events Questionnaire for the Most Serious Suicidal Thought and a Life Events Questionnaire for a Suicide Attempt.

The Collins Internal-External Scale (Collins, 1974) utilizes 46 items (plus 2 fillers) taken from Rotter's Internal-External Scale. Each statement is rated by the subject on a 7 point Likert scale along agree-disagree dimensions. This instrument assesses perceived locus of control of reinforcement. This scale has been factor analyzed to produce subscales which measure one's belief in a difficult-easy world, a just-unjust world, a predictable-unpredictable world, a politically responsive world and one's perception of personal control (Beattie et al, 1969).

The Hale-Fibel Generalized Expectancy for Success Scale (Hale and Fibel, 1976) was employed as a measure of the individual's expectancy of obtaining positive reinforcement or attainment of desired goals.

The Zung Self-Reporting Depression Scale (Zung, 1965) and the Multiple Affect Adjective Check List (Lubin and Zuckerman, 1965) were employed as cross validating measures of depression.

The Self-Report Suicidal Ideation Questionnaire solicited information concerning whether the subject had experienced thoughts of suicide. The frequency, intensity, age of the most serious thought and the primary motive(s) for these thoughts were also requested. In addition, the subject was asked to complete similar questions if a suicidal attempt had been experienced.

The Life Events Scale contained 25 positive and negative (stressful) life events which most likely would have been encountered by a typical undergraduate college student. Most of the items were taken from the Social Readjustment Rating Scale (Holmes and Rahe, 1967). All items were believed to contain one common theme, that is the occurrence of each event usually resulted in some form of social readjustment from one's accustomed pattern of life.

The subject was asked to indicate the number of times each event had been experienced. Four time categories (early childhood through adulthood) were provided in an attempt to have the subject report the number of times the life events had occurred in each category. The specific age at which the events were experienced was also requested if it possibly could be recalled. This procedure was used in an attempt to accurately determine those events which occurred prior to the most serious suicidal thought.

The Life Events Questionnaire for the Most Serious Suicidal Thought and Suicide Attempt were included to obtain information on the events which the subject felt had most pro-

foundly influenced the most serious suicidal thought or attempt. In addition, this questionnaire asked for the degree of certainty that the event did in fact influence the thought or attempt and how much control one felt s/he had over the event. The time duration between each event cited and the thought or attempt was also requested.

Procedure

Each subject was assigned to an individual testing room where the questionnaires were completed. Initial instructions by a male experimenter consisted of informing the subjects that they were free to terminate their participation in this experiment at anytime. The instructions for each questionnaire were then explained.

Upon completion of the "package", each questionnaire was checked by the experimenter for accuracy of completion. Each subject was aked whether they felt particularly upset concerning any aspect of the study and whether they were currently experiencing strong suicidal thoughts.

Subjects were completely debriefed about the experiment. In one instance, one female subject reported herself to be somewhat depressed at the end of the experiment. She was escorted to an experienced Clinical Psychologist who interviewed her and referred her to the Student Mental Health Center.

Results

Overall, suicidal ideation and locus of control expectancies are significantly connected. Subjects who reported suicidal ideation were also assessed as more external. Suicide ideation and generalized expectancy for success were negatively related as expected. However, few differences were found between the number of stressful life events reportedly experienced by ideators, attempters/ideators and non-ideators. No differences in reported suicide thought or questionnaire scores were found as a function of sex. Therefore scores were combined across sex for simplicity of analysis.

Analysis of the mean scores in each ideation category (Table 1) provides clear evidence that as the frequency of ideation increases the average I-E score increases linearly (Never, $\overline{X}$=173.4 - Monthly, $\overline{X}$=204), except for the weekly category ($\overline{X}$=179). The generalized expectancy scores (HFGES) are inversely related to the frequency of ideation (Never, $\overline{X}$=120.1 - Weekly $\overline{X}$=84). The number of total stressful life events experienced increases in relation to increased ideation for the categories Other ($\overline{X}$=17.2), 2-3 Times per Year ($\overline{X}$=18.24) and Monthly ($\overline{X}$=19.4), but drop for Weekly ($\overline{X}$=7). Reported stressful life events experienced prior to age of most serious suicidal thought parallel the total life events results.

The data for all categories of suicidal ideation (Weekly, Monthly, 2-3 Times per Year and Other) were combined for comparison with non-ideators and attempters/ideators (Table 2). The mean locus of control score for ideators ($\overline{X}$=185.9) and the mean score for non-ideators ($\overline{X}$=173.4) were found to differ sig-

TABLE 1

MEANS AND STANDARD DEVIATIONS FOR AGE, I-E SCALE (COLLINS), GENERALIZED EXPECTANCY FOR SUCCESS SCALE (HFGES), LIFE EVENTS (LE) AND AGE OF MOST SERIOUS SUICIDAL THOUGHT (AMST)

Frequency of thought	Age	Collins	HFGES	Total Life Events	Age Most Serious Thought	LE <AMST
Weekly (N=2)	$\bar{X}$=19.5 SD=2.12	$\bar{X}$=179 SD=103.24	$\bar{X}$=84 SD=41.01	$\bar{X}$=10 SD=2.83	$\bar{X}$=19.5 SD=2.12	$\bar{X}$=7 SD=7.07
Monthly (N=5)	$\bar{X}$=22.6 SD=3.65	$\bar{X}$=204 SD=19.89	$\bar{X}$=103.6 SD=23.27	$\bar{X}$=19.4 SD=15.76	$\bar{X}$=20 SD=1.00	$\bar{X}$=10 SD=7.97
2-3 Times per Year (N=29)	$\bar{X}$=20.9 SD=2.03	$\bar{X}$=192.62 SD=28.32	$\bar{X}$=104.66 SD=13.29	$\bar{X}$=18.24 SD=9.24	$\bar{X}$=18.11 SD=2.87	$\bar{X}$=9.17 SD=7.35
Other (N=60)	$\bar{X}$=21.43 SD=2.64	$\bar{X}$=181.88 SD=21.57	$\bar{X}$=116.4 SD=13.22	$\bar{X}$=17.2 SD=12.1	$\bar{X}$=16.9 SD=2.9	$\bar{X}$=7.08 SD=7.05
Never (N=78)	$\bar{X}$=21 SD=3.31	$\bar{X}$=173.42 SD=26.79	$\bar{X}$=120.1 SD=12.77	$\bar{X}$=12.12 SD=8.93	_____	_____

TABLE 2

MEANS AND STANDARD DEVIATIONS FOR AGE, I-E SCALE (COLLINS), GENERALIZED EXPECTANCY FOR SUCCESS SCALE (HFCES), LIFE EVENTS (LE) AND AGE OF MOST SERIOUS SUICIDAL THOUGHT (AMST)

GROUPED DATA

Group	Age	Collins	HFCES	Total Life Events	Age Most Serious Thought	LE ≤AMST
Attempters/Ideators[θ] (N=13)	$\bar{X}$=21 SD=1.87	$\bar{X}$=188.31* SD=30.22	$\bar{X}$=107.23** SD=13.37	$\bar{X}$=19.08 SD=9.5	$\bar{X}$=16.23 SD=2.35	$\bar{X}$=7.54 SD=6.15
Ideators[+] (N=06)	$\bar{X}$=21.35 SD=2.62	$\bar{X}$=185.9* SD=25.93	$\bar{X}$=112.2* SD=16.1	$\bar{X}$=17.23 SD=11.64	$\bar{X}$=17.68 SD=2.96	$\bar{X}$=7.92 SD=7.33
Non-Ideators (N=78)	$\bar{X}$=21 SD=3.31	$\bar{X}$=173.42 SD=26.79	$\bar{X}$=120.1 SD=12.77	$\bar{X}$=12.12 SD=8.93	_____	_____

θ Attempters/Ideators Group includes those persons who have ideated and attempted suicide.
+ Ideators Group includes only those persons who have had suicidal thoughts.
* $p < .05$, compared with Non-Ideators.
** $p < .005$, compared with Non-Ideators.

nificantly ($t=1.84$, $df=172$, $p<.05$). The mean scores for generalized expectancy for ideators ($\bar{X}=112.2$) and the mean for non-ideators ($\bar{X}=120.1$) were also significantly different ($t=1.88$, $df=172$, $p<.05$). The mean scores for the Attempters/Ideators was found to significantly exceed that of the ideators in the predicted direction for both locus of control and generalized expectancy for success.

Several correlation coefficients were computed by assigning values to the frequancy of suicidal thought. Ideation was found to be correlated significantly with both depression measures, the Zung Self-Report Depression Scale ($r=.38$, $p<.001$) and the Multiple Affect Adjective Check List ($r=.41$, $p<.001$). A significant relationship was also evident between suicidal ideation and the Collins I-E Scale ($r=.27$, $p<.001$). The following three sub-scales of this locus of control measure were also significantly related to ideation: Belief in a Difficult World ($r=.22$, $p<.002$), Belief in a Predictable World ($r=.24$, $p<.001$), and Personal Control ($r=.37$, $p<.001$).

The generalized expectancy for success scale was found to be negatively correlated with ideation ($r=-.42$, $p<.001$) as was predicted. The number of stressful life events experienced was negatively related with suicidal thoughts ($r=-.13$, $p<.046$).

Multiple regression analysis reveals that the prediction of ideation was significantly affected first by the inclusion of depression ($F=11.8$, $B=.27$, $p<.001$), secondly by generalized expectancy for success ($F=12.9$, $B=-.28$, $p<.001$) and thirdly by the number of stressful life events experienced prior to the age of the most serious suicidal thought ($F=4.57$, $B=-.14$, $p<.034$).

Discussion

Results of the present study indicate that generalized external locus of control and expectancy for success appear to be a part of the pervasive sense of hopelessness of the suicidal ideator and/or attempter who perceives him/herself as having little or no control over the events which are occuring and expects little beneficial change in the future. Exterral locus of control and generalized expectancy for success are not proposed as single item predictors of high ideation, however they should be an important concern when dealing with suicidal thoughts in an attempt to better understand the personality of suicidal attempters and ideators.

Further support for the importance of locus of control expectancy is found in the significant relationships between the three sub-scales of the I-E measure which also seem to most logically support the hypothesis. One would expect that the high ideator would perceive her/himself in a more difficult world (situation) which is unpredictable culminating in a diminished sense of personal control.

The results of the life events data in this study are more ambiguous. The overall relation between frequency of ideation and stressful life events is significantly negative. Within the ideation categories of Monthly, 2-3 Times per Year and Other the average number of stressful life events reportedly experienced increases linearly. These results suggest that stressful life events are important when dealing with actual ideators, however this relationship is not apparent when non-ideators are included in the analysis.

Further studies in this area may do well to investigate more systematically the life events experienced by ideators and attempters. This may require the use of matched subjects. However, this is a difficult task in that suicide and suicidal thoughts are very complex issues and vary over numerous dimensions.

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